

Work Order ID 163705

Thursday, July 06, 2017 10:56:25 AM

163705

Page 1

Item ID: D4011-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Clamp, Short
 Start Date: 7/5/2017 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 7/10/2017 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: JAS 21 Date: JUL 06 2017 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4011	C								
100	PURCHASING	0.00							
100									
Waterjet	Memo	0.73							
FLOW CNC Waterjet	1-Cut as per Dwg								
	Dwg Rev: <u>C</u>								
	Prog Rev: <u>C</u>								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.20							
Quality Control									

(24) _____ 07/07/07

(24) _____ 07/07/07

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.40				24			DAS 38 9-89 JUL 13 2017
130 *130* Brake NC Brake NC	Form as per dwg NC BRAKE Memo DT9709	0.26 0.44			DAS 30 9-89	24			JUL 13 2017
140 *140* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.40				24			DAS 38 9-89 JUL 13 2017

DQA: _____ Date: _____



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Work Order update only ☐

Work Order: _____						DISPOSITION						AGAINST DEPARTMENT/PROCESS																	
						Rework ☐						Skid-tube ☐		Cross tube ☐		Water Jet ☐		Engineering ☐											
Part No. _____						Scrap ☐						Machining ☐		Small Fab ☐		Prod. Eng. Coord. ☐		Quality ☐											
NCR No.						Use-as-is ☐						Thermoforming ☐		Finishing ☐		Rec/Store/Packaging ☐		Other ☐											
						Suspected Unapproved ☐						Large Fab ☐		Composite ☐		Supplier ☐													
Date :						Step #:						QTY Effective :						MRB (QS1042) Approval											
Description Work Order Deviation												Disposition																	
																								Completed By					
																								Lead hand / Supervisor Approval Verification					
																								QC / QA Coordinator Approval					
Root Cause												FAULT CATEGORY																	
Environment ☐ No Re-verification ☐												Pressure/Forced ☐												Temperature/Cure ☐		Power Loss/Surge ☐		Positioned Wrong ☐	
Design ☐ Operator ☐												Bending ☐												Set-up ☐		Folio/Program ☐		Outside Dimensions ☐	
Doc/Data ☐ Offset/Set up ☐												Centre Not Concentric ☐												BOM/Route ☐		Grain ☐		Over/Under tolerance ☐	
Equip/Tooling ☐ Supplier ☐												Cracks ☐												Broken/Damage/Defect ☐		Weld ☐		Part Incorrect ☐	
Handling/Pre ☐ Training ☐												Crimp/Kink/Ripple/Wave ☐												Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐		Part Lost/Missing ☐	
Material ☐ Use for Testing ☐												Cuffs ☐												Contamination ☐		Out of Sequence ☐		Part Moved ☐	
Internal Transport ☐ Poor Information ☐												Crushing ☐												Countersink ☐		Off-set ☐		Drawing ☐	
Tribal Knowledge ☐ Rushing ☐												Heat Treat ☐												Cut Too Short ☐		Mislabeled ☐		Finish ☐	
LOA ☐ Product Improvement ☐												Wave/Twist in Tube ☐												Instructions Incomplete/Unclear ☐		Fit/Function ☐		Misread ☐	
Substation ☐ Process Improvement ☐												Marks/Chatter ☐												Drill Holes ☐		Misaligned/off center ☐		Turning Sequence ☐	
Past Expiry Date ☐ Manufacturing Process ☐																													
Misidentified ☐ Past Due ☐												OTHER : ☐																	

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Reference:

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Identify as per dwg & Stock Location: <u>ST544</u>	0.00							
150									
Packaging	Memo	0.20							
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	2.00							
Quality Control									

24 JUL 13 2017 17/1/17 989

17/1/17 989

17/1/17 989

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

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Page 1

Work Order ID: 163705

163705

Parent Item: D4011-1

D4011-1

Parent Item Name: Clamp, Short

Start Date: 7/5/2017

Required Date: 7/10/2017

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP RevA: New issue DD verified by:EC
11.05.19 MADE IN HOUSE DD verified by:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S14GA		Purchased		No		100	sf	55.5000	0.07	1.473684			
M304S14GA									**			<u>07/07/12</u>	
304SS sheet .080													

Location

Loc Qty

Loc Code

MAT020

55.5

m137764

55.5

1.8

DQA: _____ Date: _____

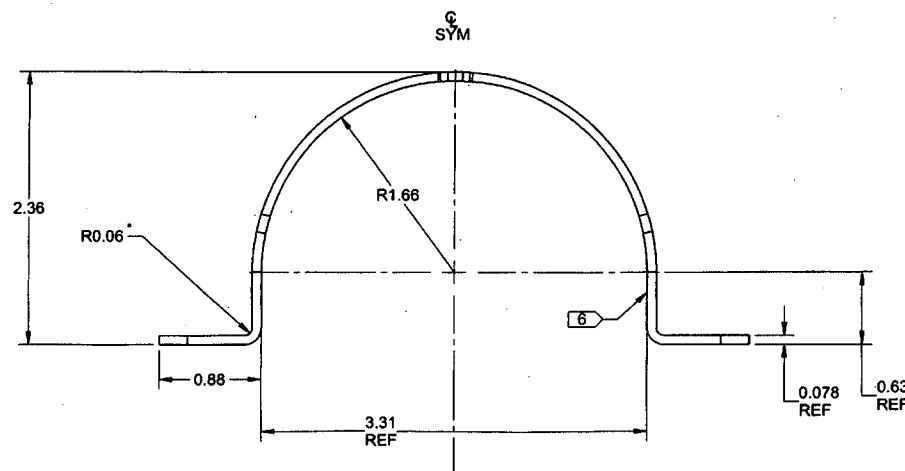
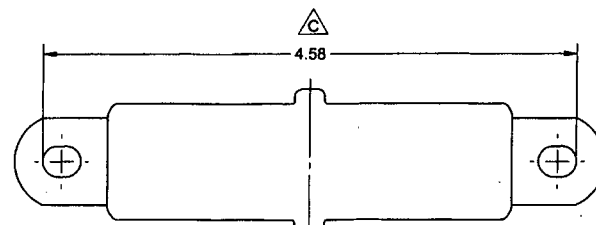


WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



D4011-1 CLAMP, SHORT

RELEASED

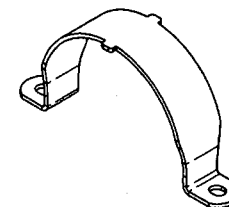
2015 MAR 26

4P SCN 15-532



NOTES:

- 1) MATERIAL: MAKE FROM D4011-1F
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4011-1" AND B/N PER QSI 044 6.1 (PERMANENT MARKER)
- 7) WEIGHT: 0.02 lbs



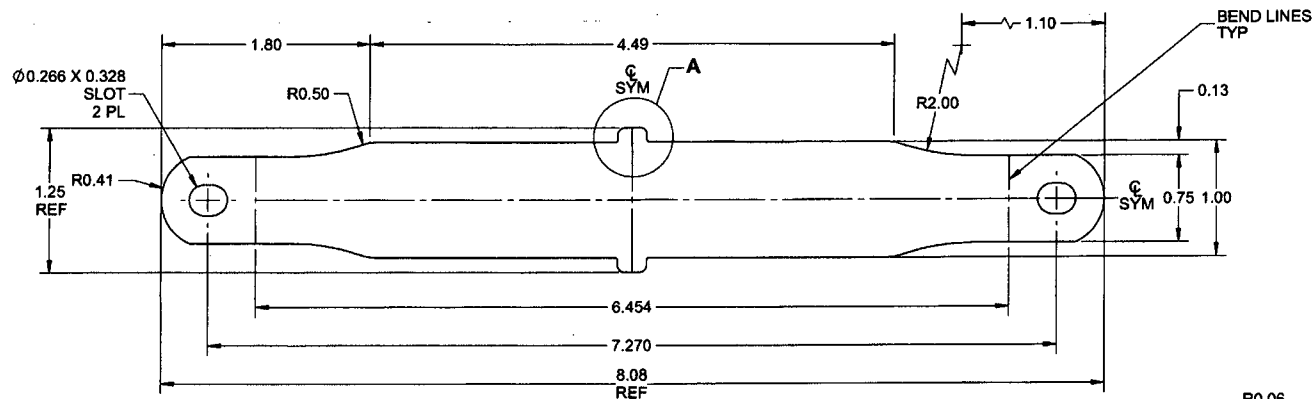
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 163705 M/S

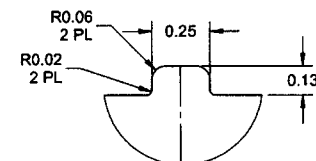
170706

C	ADD SLOT HOLES, ADD CUSHION RETENTION DETAILS TO -1/-3/-5 CLAMPS, REASON: PAR 14-331, NCR 14-3521, PAR 14-368, ZNDS-1, A8-1, B6-2, B2-2, D4-3, A8-3, B6-4, B2-4, D5-5, A8-5, B6-6, B2-6, REVISE NOTE 6, ZN A8-2, A8-4, A8-6	VS	14.09.22
B	SHORTEN HEIGHT OF -1/-3 CLAMPS BY 0.125; ADDED -5, REASON: PROVIDE MORE CLEARANCE UPON INSTALLATION ON OEM SKIDTUBES	MB	09.11.11
A	NEW ISSUE	MB	09.10.21
REV.	DESCRIPTION	BY	DATE
DESIGN	VS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. C
MFG. APPR.	DD	D4011	SHEET 1 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CLAMP	NTS
DATE	14.09.22	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED



D4011-1F CLAMP, FLAT PATTERN SHORT



DETAIL A
SCALE 2X
2 PL

RELEASED

2015 MAR 26

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH, 14 GAUGE (0.078 THICK)
PER AMS 5513 (304) OR 5524 (316) OR ASTM A240 OR ASME SA240
REF. DART SPEC. M304S14GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.02 lbs
- 8) FOR UNDIMENSIONED DETAILS, REFER TO FLAT PATTERN CAD FILE D4011-1F-RevC.DXF

APPROVED

DESIGN	VS	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. C
MFG. APPR.	DD	D4011	SHEET 2 OF 6
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CLAMP	NTS
DATE	14.09.22	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	